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- 11. The process of claim 1 wherein the partial deoxygenation zone is operated at a pressure in the range from 3.4 MPa  $(500 \, \text{psia})$  to about 20.6 MPa  $(3000 \, \text{psia})$  and a temperature in the range of about 200° C. to about 400° C.
- 12. The process of claim 1 wherein the full deoxygenation 5 zone is operated at a pressure between about 689 kPa (100 psia) to about 13.8 MPa (2000 psia) and at a temperature of about 300° C. to about 500° C.
- 13. The process of claim 1 wherein the deoxygenation and hydrogenation catalyst of the partial deoxygenation zone is a hydrotreating catalyst.
- 14. The process of claim 1 wherein the deoxygenation catalyst of the full deoxygenation zone is a hydrocracking catalyst.
- **15**. A process for producing hydrocarbon products from pyrolysis oil feedstock comprising:
  - (a) deoxygenating the pyrolysis oil feedstock in a deoxygenation zone by contacting, in the presence of hydrogen at deoxygenation conditions, the pyrolysis oil with a partial deoxygenation and hydrogenation catalyst in a first portion of the deoxygenation zone with a full deoxygenation catalyst in a second portion of the deoxygenation zone to produce a deoxygenated pyrolysis oil stream comprising water, gasses, light ends, and hydrocarbons;
  - (b) passing the deoxygenated pyrolysis oil stream to a separation zone to separate a water, gasses, and light ends stream from a remainder stream wherein the light ends of the water, gasses, and light ends stream are processed other than blending with the product stream of step (c) wherein the remainder stream comprises from about 1 to about 14 wt % hydrocarbon compounds having a boiling point of about 400° C. to about 600° C.; and

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- (c) passing the remainder stream to a fractionation zone to separate the hydrocarbon compounds in the boiling point range of gasoline into a gasoline range stream, the hydrocarbon compounds in the boiling point range of aviation fuel into an aviation range stream and the hydrocarbons in the boiling point range of diesel fuel into a diesel range stream.
- **16**. A process for producing hydrocarbon products from pyrolysis oil feedstock comprising:
  - (a) deoxygenating the pyrolysis oil feedstock in a deoxygenation zone by contacting, in the presence of hydrogen at deoxygenation conditions, the pyrolysis oil with a mixture of a partial deoxygenation catalyst and a full deoxygenation catalyst to produce a deoxygenated pyrolysis oil stream comprising water, gasses, light ends, and hydrocarbons wherein the partial deoxygenation catalyst is a hydrocracking;
- (b) passing the deoxygenated pyrolysis oil stream to a separation zone to separate a water, gasses, and light ends stream from a remainder stream wherein the light ends of the water, gasses, and light ends stream are processed other than blending with the product stream of step (c) wherein the remainder stream comprises from about 1 to about 14 wt % hydrocarbon compounds having a boiling point of about 400° C. to about 600° C.; and
- (c) passing the remainder stream to a fractionation zone to separate the hydrocarbon compounds in the boiling point range of gasoline into a gasoline range stream, the hydrocarbon compounds in the boiling point range of aviation fuel into an aviation range stream and the hydrocarbons in the boiling point range of diesel fuel into a diesel range stream.

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